

SEQUENCE LISTING

<110> Allen, Steve
Lu, Albert
Thorpe, Cathy

<120> Thioredoxin H Homologs

<130> BB-1246

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<150> 60/099,501

<151> September 8, 1998

<160> 13

<170> Microsoft Office 97

<210> 1

<211> 870

<212> DNA

<213> Momordica charantia

<400> 1

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gattctgaga aactggttgt ggtggatttt actgcttcct ggtgcgggcc atgccgggca 180
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gacgttgacg aattgaacag tgttgctagc aagtgggaga ttaatgcaat gccaacgttt 300
gttttcctga aaaaaggga aataattgag aagatcggtg gtgctgataa agtggggctg 360
tcgaagaaaa tattagagct tagtggaact actcccgctg ctacttctac tgcttagaca 420
gtctgcttgg aggatgtgat ccctctgggtg caatggtgat tccgcttttg agtttgatct 480
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<210> 2

<211> 122

<212> PRT

<213> Momordica charantia

<400> 2

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Met Ala Glu Glu Gly Gln Val Ile Ala Cys His Lys Ile Asp Glu Trp
  1          5          10          15
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Glu Gly Gln Leu Gly Lys Trp Lys Asp Ser Glu Lys Leu Val Val Val
          20          25          30
```

```
Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Ala Ile Ala Pro Tyr
          35          40          45
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Phe Thr Glu Leu Ala Lys Asn Asn Pro Asn Val Ala Phe Leu Lys Val
          50          55          60
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Asp Val Asp Glu Leu Asn Ser Val Ala Ser Lys Trp Glu Ile Asn Ala
65 70 75 80

Met Pro Thr Phe Val Phe Leu Lys Lys Gly Lys Ile Ile Glu Lys Ile
85 90 95

Val Gly Ala Asp Lys Val Gly Leu Ser Lys Lys Ile Leu Glu Leu Ser
100 105 110

Gly Thr Thr Pro Ala Ala Thr Ser Thr Ala
115 120

<210> 3
<211> 574
<212> DNA
<213> Catalpa speciosa

<400> 3
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agcagttcca gaagggtgtt gactctaaga aactgggtgtt aatagacttc acggcttctt 180
ggtgcggaacc atgcccgtttc attgctccaa tcttggctga gatggccaag aagacacccc 240
atgtcatatt cctgaaagtc gacgtggatg aactcaagac tgttgctgag gaattcaaag 300
tgagggttat gccgaccttc gtgttcctca aggaagggaa agaagtggaa aggcttgtgg 360
gagcaaggaa ggaggaattg caggccacag ttgagaaaca tggcgctatc actgcttgat 420
gctgtttcaa tgtttagtta tgtaatatat gatgatgctt ggaataataa tgtcttaagt 480
tatccagatc gtatgtgact gacgtttctg ttgttatgtg gattgttatt gttaatgtaa 540
tgtaatggag tgtcttaaaa aaaaaaaaaa aaaa 574

<210> 4
<211> 118
<212> PRT
<213> Catalpa speciosa

<400> 4
Met Ala Ser Ser Glu Glu Gly Gln Val Ile Gly Cys His Ser Val Asp
1 5 10 15

Glu Trp Lys Glu Gln Phe Gln Lys Gly Val Asp Ser Lys Lys Leu Val
20 25 30

Val Ile Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Phe Ile Ala
35 40 45

Pro Ile Leu Ala Glu Met Ala Lys Lys Thr Pro His Val Ile Phe Leu
50 55 60

Lys Val Asp Val Asp Glu Leu Lys Thr Val Ala Glu Glu Phe Lys Val
65 70 75 80

Glu Ala Met Pro Thr Phe Val Phe Leu Lys Glu Gly Lys Glu Val Glu
85 90 95

Arg Leu Val Gly Ala Arg Lys Glu Glu Leu Gln Ala Thr Val Glu Lys
100 105 110

His Gly Ala Ile Thr Ala
115

<210> 5
 <211> 738
 <212> DNA
 <213> Glycine max

<400> 5
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 atggaacgat caactccaga agggcaacga atccaagaaa ctcatgttg tggattttac 180
 tgcttcttgg tgtggacat gccgtttcat tgcaccattc ttggctgagc tggctaagaa 240
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 gtactagact tatgttggtg tttctgttat tgcaccaatc agcttttcaa aggtgatgac 540
 tcctatcatc tatctctgaa tagtagtaac tggctctttc ttccgtctta aataatagtg 600
 gatgggtgcta tatcatgaat cttaattaca tagaccttcc tgttttccct tttagtatta 660
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<210> 6
 <211> 120
 <212> PRT
 <213> Glycine max

<400> 6
 Met Ala Gly Ser Ser Glu Glu Gly Gln Val Ile Ser Cys His Thr Val
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 Glu Glu Trp Asn Asp Gln Leu Gln Lys Gly Asn Glu Ser Lys Lys Leu
 20 25 30
 Ile Val Val Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Phe Ile
 35 40 45
 Ala Pro Phe Leu Ala Glu Leu Ala Lys Lys Phe Thr Ser Val Ile Phe
 50 55 60
 Leu Lys Val Asp Val Asp Glu Leu Lys Ser Val Ser Gln Asp Trp Ala
 65 70 75 80
 Ile Glu Ala Met Pro Thr Phe Val Phe Val Lys Glu Gly Thr Leu Leu
 85 90 95
 Asp Lys Val Val Gly Ala Lys Lys Asp Glu Leu Gln Gln Lys Ile Gln
 100 105 110
 Lys His Val Ala Ser Ala Ser Ala
 115 120

<210> 7
 <211> 601
 <212> DNA
 <213> Glycine max

<400> 7
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 gtcacggcg tccacaccgt tgatgagtgg aagctgcaac tccagaatgc aaaagactcc 120
 aaaaaactga ttgtggtgga ttttactgct tcctggtgtg gtccatgccg ttttatggcc 180
 ccagttcttg cagagattgc aaagaaaact cctgaattga tcttctcaa agtggatgtg 240

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gatgaagtga ggccgttgc tgaggaatat tccattgagg ccatgccaac cttcctcttc 300
ttgaaagatg gcgagatcgt ggacaagggtg gttggtgcta gtaaggatga ccttcaagcc 360
accatagcca agcatgcac tgctgttgct gctgcttctt cttcttgaag tgaagtatca 420
taatatgaaa gaagacaaag aataatgcat tttaatgttt tcaagtcagt ttggatgttt 480
tctctatgga cattgagttg gcagaacatc gagtgatgta taaaaataaa attgttgcat 540
tgtctttttt tcgtaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600
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<210> 8
 <211> 123
 <212> PRT
 <213> Glycine max

<400> 8
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 Glu Trp Lys Leu Gln Leu Gln Asn Ala Lys Asp Ser Lys Lys Leu Ile
 20 25 30
 Val Val Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Phe Met Ala
 35 40 45
 Pro Val Leu Ala Glu Ile Ala Lys Lys Thr Pro Glu Leu Ile Phe Leu
 50 55 60
 Lys Val Asp Val Asp Glu Val Arg Pro Val Ala Glu Glu Tyr Ser Ile
 65 70 75 80
 Glu Ala Met Pro Thr Phe Leu Phe Leu Lys Asp Gly Glu Ile Val Asp
 85 90 95
 Lys Val Val Gly Ala Ser Lys Asp Asp Leu Gln Ala Thr Ile Ala Lys
 100 105 110
 His Ala Ser Ala Val Ala Ala Ala Ser Ser Ser
 115 120

<210> 9
 <211> 614
 <212> DNA
 <213> Vernonia mespilifolia

<400> 9
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 agtggatga gcaacttgag aagcacaagg gaactgacaa attggtggtt gtggatttca 180
 ccgcctcatg gtgtggtcct tgccgtgtga ttgcaccaat cttggctgat ttgctaaga 240
 agatgccccca tgttaccttc cttaagggtg atgtggatga actcgagagc gttgctcagg 300
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 cagtttctgc ttaacgtact acataatatg attatcttat cagcaactta ttagtctctt 480
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 aaccttgggt tataacttgc tctttcatct atatgcataa attgaagttg ctgtattaaa 600
 aaaaaaaaaa aaaa 614

<210> 10
 <211> 118
 <212> PRT
 <213> Vernonia mespilifolia

<400> 10

Met Ala Glu Glu Gly Val Val Thr Gly Ile His Thr Val Asp Gln Trp
 1 5 10 15

Asn Glu Gln Leu Glu Lys His Lys Gly Thr Asp Lys Leu Val Val Val
 20 25 30

Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Val Ile Ala Pro Ile
 35 40 45

Leu Ala Asp Phe Ala Lys Lys Met Pro His Val Thr Phe Leu Lys Val
 50 55 60

Asp Val Asp Glu Leu Glu Ser Val Ala Gln Glu Trp Ser Val Glu Ala
 65 70 75 80

Met Pro Thr Phe Leu Phe Leu Lys Gly Gly Val Lys Val Asp Lys Val
 85 90 95

Val Gly Ala Lys Lys Asp Glu Leu His Ala Cys Ile Val Lys His Ser
 100 105 110

Ala Ala Thr Val Ser Ala
 115

<210> 11

<211> 114

<212> PRT

<213> Arabidopsis thaliana

<400> 11

Met Ala Ser Glu Glu Gly Gln Val Ile Ala Cys His Thr Val Glu Thr
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Trp Asn Glu Gln Leu Gln Lys Ala Asn Glu Ser Lys Thr Leu Val Val
 20 25 30

Val Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Phe Ile Ala Pro
 35 40 45

Phe Phe Ala Asp Leu Ala Lys Lys Leu Pro Asn Val Leu Phe Leu Lys
 50 55 60

Val Asp Thr Asp Glu Leu Lys Ser Val Ala Ser Asp Trp Ala Ile Gln
 65 70 75 80

Ala Met Pro Thr Phe Met Phe Leu Lys Glu Gly Lys Ile Leu Asp Lys
 85 90 95

Val Val Gly Ala Lys Lys Asp Glu Leu Gln Ser Thr Ile Ala Lys His
 100 105 110

Leu Ala

<210> 12

<211> 126

<212> PRT

<213> Nicotiana tabacum

<400> 12
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 Cys His Lys Val Glu Glu Trp Asn Glu Tyr Phe Lys Lys Gly Val Glu
 20 25 30
 Thr Lys Lys Leu Val Val Val Asp Phe Thr Ala Ser Trp Cys Gly Pro
 35 40 45
 Cys Arg Phe Ile Ala Pro Ile Leu Ala Asp Ile Ala Lys Lys Met Pro
 50 55 60
 His Val Ile Phe Leu Lys Val Asp Val Asp Glu Leu Lys Thr Val Ser
 65 70 75 80
 Ala Glu Trp Ser Val Glu Ala Met Pro Thr Phe Val Phe Ile Lys Asp
 85 90 95
 Gly Lys Glu Val Asp Arg Val Val Gly Ala Lys Lys Glu Glu Leu Gln
 100 105 110
 Gln Thr Ile Val Lys His Ala Ala Pro Ala Thr Val Thr Ala
 115 120 125

<210> 13
 <211> 118
 <212> PRT
 <213> Ricinus communis

<400> 13
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 Trp Asn Glu Gln Leu Gln Lys Gly Asn Asp Thr Lys Gly Leu Ile Val
 20 25 30
 Val Asp Phe Thr Ala Ser Trp Cys Gly Pro Cys Arg Phe Ile Ala Pro
 35 40 45
 Phe Leu Ala Glu Leu Ala Lys Lys Leu Pro Asn Val Thr Phe Leu Lys
 50 55 60
 Val Asp Val Asp Glu Leu Lys Thr Val Ala His Glu Trp Ala Val Glu
 65 70 75 80
 Ser Met Pro Thr Phe Met Phe Leu Lys Glu Gly Lys Ile Met Asp Lys
 85 90 95
 Val Val Gly Ala Lys Lys Asp Glu Leu Gln Gln Thr Ile Ala Lys His
 100 105 110
 Met Ala Thr Ala Ser Thr
 115